

THE ROCKY MOUNTAIN SPECIES OF THERMOPSIS.

(WITH PLATE XVIII)

THE difficulty of fitting all my specimens to the accepted descriptions of the heretofore published species of *Thermopsis* long since led me to suspect that more than two species were represented in this region. Of this I became convinced when perfectly typical material of *Thermopsis montana* Nutt. was secured in the western part of the state in 1897. The plant, common on the streams near Laramie, which I had long supposed to be that, and of which I had not heretofore secured fruits, turned out, as the fruits show, to be a very different one.

A closer examination of the characters of *T. rhombifolia* Rich. reveals also that some of the specimens that I had unwillingly placed under this name are, instead, a good species. *T. rhombifolia* differs from this in its habitat, mode of branching, its inflorescence, and other characters pointed out in the description. In looking over the recent description of *T. rhombifolia* in Britton and Brown's *Flora* it seemed to me probable that the measurements given, especially of the leaves, were hardly great enough.

The species of this region, as they now appear to be, are *T. montana*, *T. rhombifolia*, and the two proposed species. The fruits of these are very characteristic, a fact shown in the accompanying plate. The four fruiting racemes are all from Wyoming material, are mature and typical each of its species. They were photographed on one plate, hence the size is relatively correct (about one-third natural size).

✓ ***Thermopsis divaricarpa*, n. sp.**—Erect, 5–8^{dm} high: stems several from the perennial root, youngest slightly pubescent especially upwards, nearly simple, bearing only two or three slender sterile branches from the upper axils, one or two of these generally overtopping the matured raceme: leaves large; leaflets sparsely appressed pubescent beneath, rhomboid or narrowly elliptic to oblanceolate, from acute to rounded obtuse, 5–10^{cm} long, 1.5–3.5^{cm} wide, nearly sessile; petioles 2–3^{cm} long; stipules large, ovate or the uppermost on the sterile branches narrower, somewhat inequilateral, longer than the petioles (3–5^{cm}): raceme strictly terminal on the main axis, rather dense: flowers large, yellow, about twenty; pedicels stout, 1^{cm} long, longer in fruit: calyx large, lobes shorter than the tube, the sinus

between the two united upper lobes shallow: pods large, linear, 8-10^{mm} long, about 7^{mm} wide, finely pubescent when young, obscurely so when mature, from nearly straight and erect when young to divaricate and slightly curved when mature, 10-15-seeded.

It is found near streams, preferring the moist, rich soil among the open underbrush. Type specimens in Herb. Univ. of Wyo., no. 3424 by Elias Nelson, Pole creek, July 22, 1897; and no. 3903 by the writer, Johnson's ranch, Big Laramie river, August 8, 1897.

✓*Thermopsis arenosa*, n. sp.—Smaller in every way: stems from the persistent branched bases more numerous, branching and habit similar, 3-4^{dm} high: leaflets proportionately wider, from oblong or oblanceolate to obovate, 3-4^{cm} long, 1-2.5^{cm} wide; stipules longer than the petioles, broad, from ovate to suborbicular: fruiting racemes shorter: pods inclined to be divaricate from the first, shorter, at maturity constricted between the fewer large seeds.

These two species are very different in seasonal development and habitat. This last is very abundant in the Laramie hills in dry, open, sandy, or stony draws and ravines. Heretofore confused with *T. rhombifolia* from which it differs in its larger leaflets, longer stipules, its strictly terminal raceme and its curved, divergent, loment-like pod.

Type specimen in Herb. Univ. of Wyo., no. 3182, Laramie hills, June 16, 1897; fruit from the same locality July 17, 1897. Others nos. 122 and 1240.—AVEN NELSON, *The University of Wyoming*.

EXPLANATION OF PLATE XVIII.

- FIG. 1. *Thermopsis montana* Nutt. FIG. 2. *T. rhombifolia* Rich. FIG. 3. *T. divaricarpa* Aven N. FIG. 4. *T. arenosa* Aven N.

NOTES ON THE BOTANY OF THE SOUTHEASTERN STATES. I.

HAVING the opportunity to study a considerable collection of plants gathered mainly during the past few years at various stations in the southeastern United States, I have decided to publish at intervals the results of the investigation so far as they relate to species that appear to be either undescribed, unrecorded in the recognized flora of the region, or of too restricted geographical range as indicated in recent literature on the subject. In the present paper one species is proposed